What is claimed is:

1. A sensor, comprising:

a substrate of a first conductivity type;

a semiconductor well of a second conductivity type in said substrate;

a first floating diffusion of a first size, in contact with first semiconductor well;

a second floating diffusion, separate from said first floating diffusion, and of a second size different from said first size, also in contact with said semiconductor well; and

first and second output transistors, respectively connected to said first and second floating diffusions.

2. A sensor as in claim 1 wherein said first floating diffusion is larger than said second floating diffusion.

3. A sensor as in claim 1 wherein said floating diffusions are formed at a surface of the semiconductor well.

4. A sensor as in claim 1 wherein said first floating diffusion is formed below a surface of said semiconductor well, and forming an overlying semiconductor well region over said first floating diffusion.

5. A sensor as in claim 4 wherein said first and second floating diffusions have opposite conductivity types.

6. A sensor as in claim 1 wherein said first and second floating diffusions have opposite conductivity types.

7. A sensor as in claim 5 further comprising a reset element, which resets at least one of said floating diffusions.

8. A sensor as in claim 5 further comprising a third floating diffusion coupled to said second floating diffusion, and an output transistor coupled to said third floating diffusion, said third floating diffusion provided above said first floating diffusion and having a portion touching a surface of said semiconductor well.

9. A sensor as in claim 1 further comprising an active oxide covering a surface of said well.

10. A sensor as in claim 9 further comprising first and second reset transistors, respectively connected to said first and second floating diffusions, and providing a reset level thereto in response to a reset signal.

11. A sensor as in claim 1 wherein said sensor is a photosensitive sensor.

12. A sensor as in claim 11 further comprising a first PN junction between said floating diffusion and said semiconductor well, and a second PN junction between said semiconductor well and said substrate.

13. A sensor as in claim 11 wherein said substrate well and diffusions are formed to form three PN junctions to a path of incoming light.

14. A photosensor, comprising:

a substrate of a first conductivity type;

a first semiconductor well, of a second conductivity type formed within said first conductivity type substrate;

a first floating diffusion of a first size and a first conductivity, formed in said semiconductor well;

a second floating diffusion of said second conductivity type, also formed at least partly within said well, wherein one of said first and second floating diffusions is larger than the other of said first and second floating diffusions; and

transistor connection elements, enabling connection to said first and second floating diffusions, to obtain outputs indicative of an amount of light collected thereby.

15. A photosensor as in claim 14 further comprising first and second reset elements, respectively connected to reset said first and second floating diffusions.

16. A photosensor as in claim 15 wherein said substrate is P-type, said semiconductor well is N-type, said first floating diffusion is P-type and said second floating diffusion is N-type.

17. A photosensor as in claim 14 wherein one of said floating diffusions surrounds the other of said floating diffusions.

18. A photosensor as in claim 16 wherein said second floating diffusion of N-type surrounds an area of P type material including said P-type first floating diffusion.

19. A photosensor as in claim 14 wherein said N-region is fully depleted.

20. A photosensor as in claim 14 wherein there are three PN junctions in the path of any light beam.

21. A method of converting light to a signal comprising:

receiving the light simultaneously in a first floating diffusion of a first size and first conductivity type, and a second floating diffusion of a second size and second conductivity type, wherein the first floating diffusion is larger than the second floating diffusion and produces an output indicative of a different gradation of the incoming light; and

sampling said first floating diffusion using a transistor of said first conductivity type and sampling the second floating diffusion using a transistor of said second conductivity type.